

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A data streaming apparatus ~~having~~comprising:

a data input for receiving data frames encoded by a layered encoding algorithm;

~~packetizing~~packetizing means ~~to insert~~for inserting received data frames, so encoded, into one or more predetermined packet structures, the data frames associated with each encoded layer being inserted into a different respective sequence of packets;

packet numbering means ~~to assign~~for assigning a data sequence number to each packet generated by the ~~packetizing~~packetizing means, the data sequence numbers assigned to ~~the packets being~~running in a single sequence indicative of the order of receipt, at the data input, of encoded data inserted within the packet; and

a network interface ~~to transmit, in use,~~for transmitting packets so created and for transmitting the assigned data sequence numbers.

2. (Currently Amended) A data streaming apparatus ~~according to Claim 1,~~comprising:

a data input for receiving data frames encoded by a layered encoding algorithm;

packetizing means for inserting received data frames, so encoded, into one or more predetermined packet structures, the data frames associated with each encoded layer being inserted into a different respective sequence of packets;

packet numbering means for assigning a data sequence number to each packet generated by the packetizing means, the data sequence numbers assigned to the packets being indicative of the order of receipt, at the data input, of encoded data inserted within the packet;

wherein the packet number means ~~are~~is arranged to assign a further sequence number to each packet generated by the ~~packetising~~packetization means, said further sequence numbers assigned to a respective sequence of packets being indicative of the position of the packet within ~~the respective~~that sequence of packets, and

a network interface for transmitting packets so created and for transmitting the assigned data sequence numbers.

3. (Currently Amended) A data streaming apparatus ~~according to as in Claim 1,~~ wherein the ~~packetising~~packetizing means ~~are~~is arranged to generate one or more further sequence of packets for use in conveying data sequence numbers assigned by the packet numbering means.

4. Cancelled.

5. (Currently Amended) A method ~~of generating data packets to convey for~~ transmitting data frames encoded by a layered encoding algorithm ~~for transmission over a~~

communications network, ~~each layer of encoded data frames being conveyed by a different~~
~~respective sequence of data packets, including the steps of~~said method comprising:

- (1) ~~receiving an~~encoded data frames;
- (2) inserting data from said data frames ~~into one or more~~data packets generated according to a predetermined packet structure, data from each layer of encoded data frames being inserted into a separate sequence of data packets;
- (3) ~~assigning, in respect of one of said one or more data packets, to each data packet a~~
data sequence number, said sequence numbers running in a single sequence indicative of the required order of receipt of encoded data inserted into said packet; for subsequent presentation of the frames to a decoder;
- (4) ~~writing~~transmitting said packets and transmitting said data sequence numbers at a
~~predetermined position within~~ along with said packets; and.
- (5) ~~performing steps (3) and (4) in respect of each of said one or more data packets generated at step (2).~~

6. (Currently Amended) A method ~~of generating data packets according to Claim 5,~~
~~wherein step (3) includes~~ for transmitting data frames encoded by a layered encoding algorithm
over a communications network, said method comprising:

- (1) receiving encoded data frames;

(2) inserting data from said data frames into data packets generated according to a predetermined packet structure, data from each layer of encoded data frames being inserted into a separate sequence of data packets;

(3) assigning to each data packet a data sequence number, said sequence numbers being indicative of the required order for subsequent presentation of the frames to a decoder;

(4) assigning a further sequence number to said one of said one or more data~~each~~
packets said further sequence numbers assigned to a respective sequence of packets being
indicative of the order of transmission of ~~said data packets~~ within a ~~respective~~that sequence of
packets; and wherein step (4) includes writing

(5) transmitting said packets and transmitting said data sequence numbers and said
further sequence numbers ~~at a further predetermined position within~~ along with said data packets.

7. (Currently Amended) A method ~~of ordering data packets received within one or more separately accessible sequences of data packets generated according to the method of~~ as in
Claim 5, further including ~~the steps of:~~

(1) ~~receiving one or more~~said data packets ~~on one or more~~of at least two of said one
or more separately accessible sequences of data packets; and reordering the (2) ~~selecting, from~~
~~the~~ ~~said data packets received at step (1), that data packet having the smallest~~ in order of assigned
data sequence number ~~amongst non-selected data packets;~~

(3) ~~outputting said selected data packet;~~

(4) ~~repeating steps (1) to (3).~~

8. (Currently Amended) A method of ordering data packets received within ~~one or more~~ a plurality of separately accessible sequences of data packets received over a communications network, each sequence of data packets conveying data frames relating to a different layer of encoded data frames output by a layered encoding algorithm, each data packet having assigned thereto a data sequence number indicative of the order of output of encoded data, conveyed by said data packet, from said encoding algorithm, and a further sequence number indicative of the position of said data packet within the respective sequence of data packets, the method comprising:

selecting data packets in order of ~~receipt~~ further sequence number within a first of said accessible sequences of data packets;

outputting selected packets from said first sequence in order of assigned data sequence number, and,

upon selecting a packet from said first sequence having an out-of-sequence data sequence number, ~~using the further sequence number assigned to said selected packet to determine whether~~ searching another of said separately accessible sequences for the next expected packet, according to data sequence number, ~~is associated with other than said first sequence of data packets.~~

9. (New) A data streaming apparatus as in claim 1 in which the packet numbering means is arranged to write each said data sequence number at a predetermined position within its packet.

10. A data streaming apparatus as in claim 2 in which the packet numbering means is arranged to write each said data sequence number at a predetermined position within its packet.

11. (New) A data streaming apparatus according to claim 2, wherein the packetizing means is arranged to generate one or more further sequences of packets for use in conveying data sequence number assigned by the packet numbering means.

12. (New) A method as in claim 6, further comprising:

receiving said data packets at least two of said one or more separately accessible sequences of data packets, and reordering the data packets in order of assigned data sequence number.

13. (New) A method as in claim 5 in which the layered coding algorithm is a video encoding algorithm which outputs video frames not in the order in which they were sampled but in the order in which they are to be decoded.

14. (New) A method as in claim 5 including writing each said data sequence number at a predetermined position within its packet.

15. (New) A method as in claim 5 including generating one or more further sequences of packets for use in conveying said data sequence numbers.

16. (New) A method as in claim 6 in which the layered coding algorithm is a video encoding algorithm which outputs video frames not in the order in which they were sampled but in the order in which they are to be decoded.

17. (New) A method as in claim 6 including writing each said data sequence number at a predetermined position within its packet.

18. (New) A method as in claim 10 including writing each said data sequence number at a predetermined position within its packet.

19. (New) A method as in claim 6 including generating one or more further sequences of packets for use in conveying said data sequence numbers.

20. (New) A method as in claim 10 including generating one or more further sequences of packets for use in conveying said data sequence numbers.